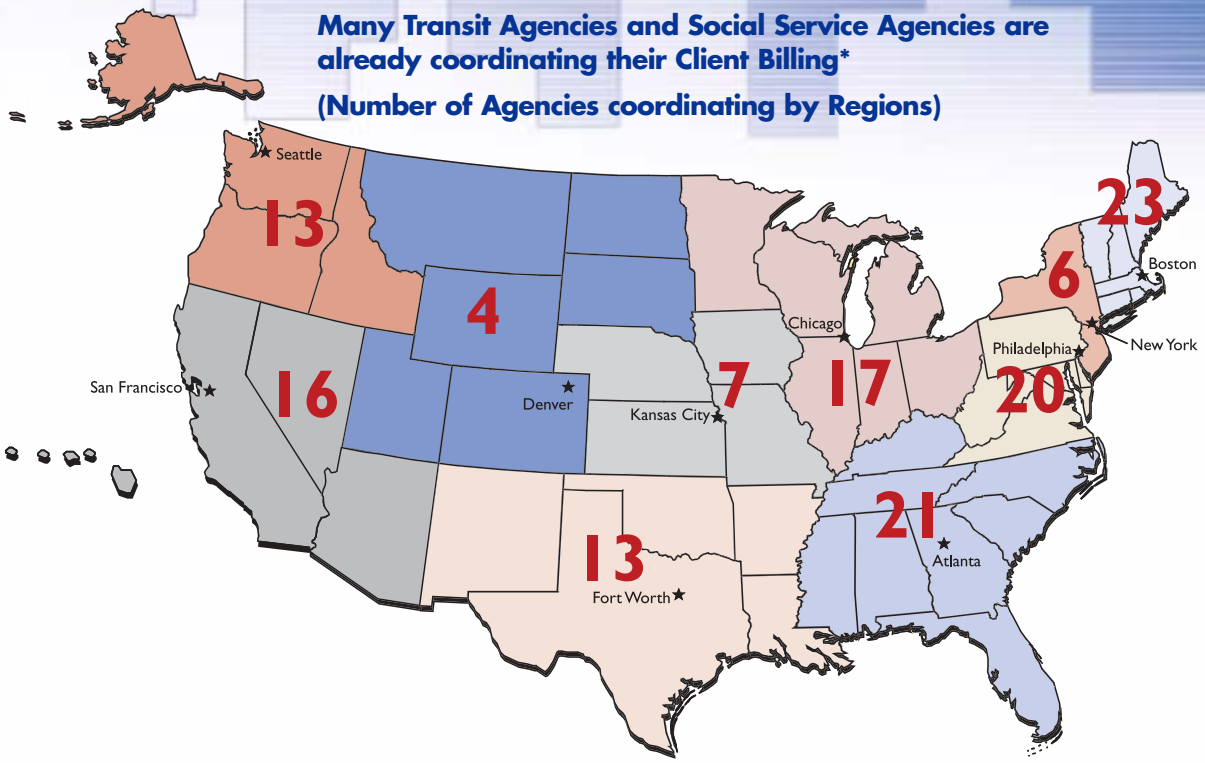
UNITED WE RIDE
COORDINATING HUMAN SERVICE TRANSPORTATION

USING TECHNOLOGIES TO SUPPORT COST ALLOCATION AMONG HUMAN SERVICES AND TRANSPORTATION AGENCIES

Use of technology can assist the managers of human service transportation programs with allocating trip costs and ensuring accurate billings to the appropriate agencies involved in funding transportation for individuals with disabilities, older adults, and others that depend on human service transportation in the community.

Many Transit Agencies and Social Service Agencies are already coordinating their Client Billing*

(Number of Agencies coordinating by Regions)



*From: Transit ITS Deployment Tracking Progress Report and Preliminary Agency Responses, 2004
Prepared by the USDOT VOLPE CENTER for the FTA Office of Research, Demonstration and Innovation

TRANSPORTATION COORDINATION ISSUES

In many cities, regions and states, there are numerous public and private agencies that provide specialized and paratransit services, often funded by multiple agencies or funding sources. Many agency administrators are unaware that they are providing often parallel or identical services to different clients in the same geographic area. This is a complex problem created by a wide range of programs, diverse client populations, different administrative practices and reporting requirements, and different agencies involved at the federal, state and local level. A major barrier to greater coordination among the human services transportation programs is the *inability to properly allocate appropriate trip costs* and *manage the multi-agency billings* for the various agencies involved in any shared transportation.

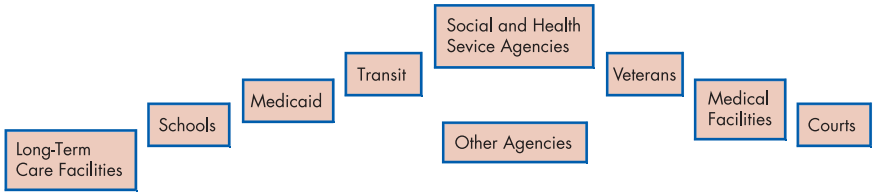
Executive Order 13330 signed by President Bush on February 24, 2004, established the new **Interagency Transportation Coordinating Council on Access and Mobility (CCAM)**, chaired by the Secretary of Transportation, Norman Y. Mineta. The purpose of the Council is to coordinate 62 different Federal programs across 9 Federal departments that provide funding to be used in support of human services transportation.

The CCAM launched a five-part interagency Federal national initiative – **UNITED WE RIDE** – that is designed to help states and communities overcome obstacles to coordination and develop coordinated human service delivery systems. United We Ride provides State coordination grants, a transportation-coordination and planning self-assessment tool, technical assistance, and other resources to help the State and local agencies succeed.

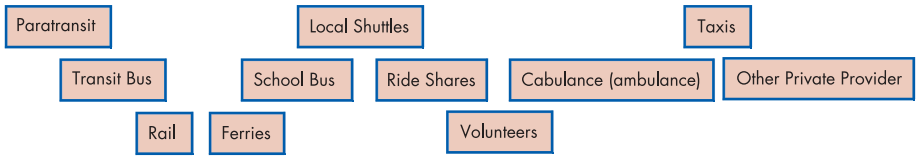
UNITED WE RIDE Program Objectives:

1. Break down agency barriers
2. Encourage cooperation
3. Increase productivity
4. Reduce duplication of services
5. Reach economies of scale from sharing of transportation

Programs for the Transportation-Disadvantaged are Managed and Operated by various State and Local Agencies



Transportation is provided in various modes and methods along similar routes by these agencies...

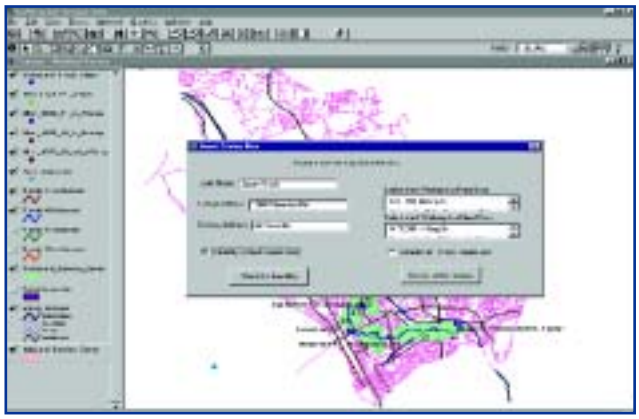


USEFUL TECHNOLOGIES

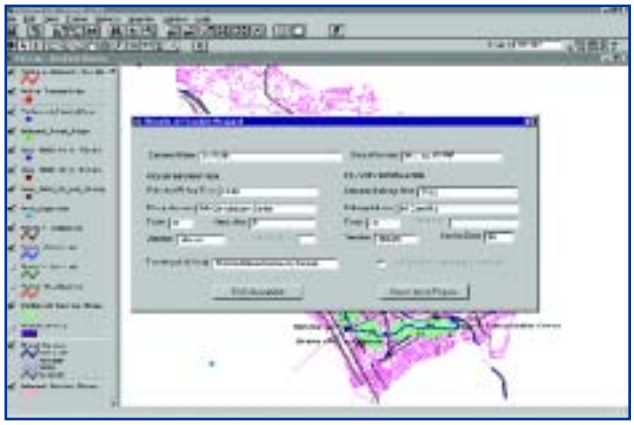
As part of the UNITED WE RIDE initiative, the U.S. Department of Transportation (USDOT) created a high priority, multi-year project that employs emerging technologies to enhance the accessibility and quality of human service transportation. The project's goals include the use of technology to streamline reservations, scheduling, dispatching, reporting and billing processes for human service transportation activities.

A number of technologies have proven very helpful in the coordination of billing charges and cost allocation for providing specialized transportation services from a variety of human and social service agencies and public transportation agencies. Regarding cost allocation, the most beneficial technology is the **cost sharing, billing, and reporting software**. This software allows human services agencies and transportation providers to calculate shared costs, and automate billing and reporting functions. **In general, billing software is not a stand-alone investment**. It operates using data collected from other technologies deployed both within the transportation dispatch and management center and on the vehicle providing the transportation service.

Billing Software is a subset of **Transportation Operations Software**. Operations software incorporates client information, call taking, scheduling, vehicle routing, agency/client billing, and other paratransit functions. The operations software allows operators to track passengers, scheduled trips and vehicles, produce agency and client invoices, and collect, manage and report assorted data. Many of these software systems are enhanced with geographic information system (GIS) capabilities and integrated with vehicle-based technologies such as mobile data terminals (MDTs) and automatic vehicle location (AVL).



Input Dialog Box



Output Dialog Box

Billing software:

- Speeds processing for more consistent cash flow
- Provides greater service detail for accountability and credibility

OTHER KEY TECHNOLOGIES USED FOR COST ALLOCATION

Computer-Aided Dispatching (CAD) Systems employ computer software that organizes transit routes, schedules, demand responsive trip orders, and vehicle assignments to allow dispatchers to identify vehicle locations to more efficiently schedule and dispatch trip requests. CAD is usually integrated with automatic vehicle location, geographic information system, and mobile data terminal technologies. Information regarding scheduled trips is automatically entered into the transportation operations database and is tied to the billing and accounting functions of the appropriate agencies.

USEFUL TECHNOLOGIES

Mobile Data Terminal (MDT)

Automatic vehicle location (AVL) is a computer-based vehicle tracking system. The actual real-time position of each vehicle is determined and relayed to a control center. Other advanced system features are often incorporated with AVL systems. Simple AVL systems include: computer-aided dispatching software, mobile data terminals, emergency alarms, and digital communications.

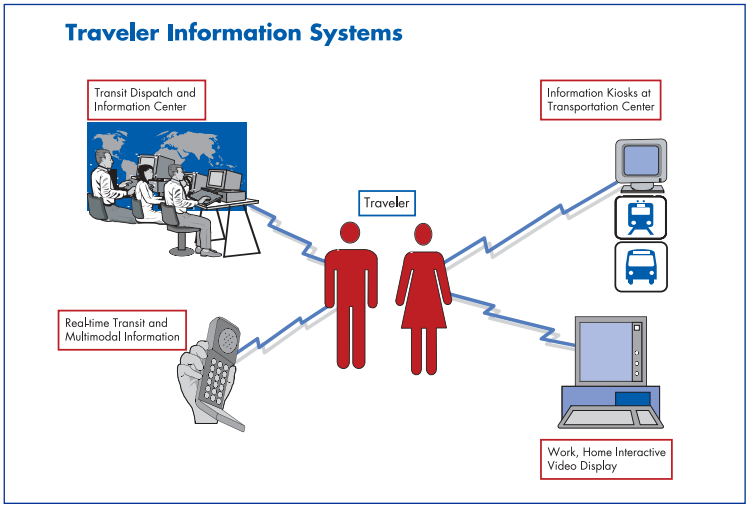
Electronic Fare Payment and Collection Systems are automated fare payment systems that allow passengers to pay for transportation services using electronic media such as magnetic stripe cards, credit cards, debit cards, or smart cards (cards with an embedded microchip). Farebox or other device reads cards and performs payment entries. These systems allow for more sophisticated fare pricing structures and cost sharing opportunities. Electronic payment systems help ensure that transportation providers get reimbursed correctly for trips they provided and that funding agencies get billed correctly.

Advanced Traveler Information Systems are used to provide customers the greatest level of information possible. These technologies enable the customers to determine their most advantageous route among the possible transportation providers. Internet-based trip planning and scheduling programs provide another method to document and allocate trips by clients of the various agencies coordinating their transportation services. Among the means used to provide information are:

- In-vehicle annunciators and displays
- Terminal or wayside based information centers
- Telephone information systems
- Cable and interactive TV
- Internet and e-mail communication.

For more information on these technologies to aid with passenger tracking, trip billing, and cost allocation, the following documents are available:

- TCRP Report 105: **Strategies to Increase Coordination of Transportation Services for Transportation Disadvantaged**, 2004 http://www4.trb.org/trb/crp.nsf/All+Projects/TCRP+H-30
- TCRP Report 101: **Toolkit for Rural Community Coordinated Transportation Services**, 2004 http://www4.trb.org/trb/crp.nsf/All+Projects/TCRP+B-24
- TCRP Report 76: **Guidebook for Selecting Appropriate Technology Systems for Small Urban and Rural Public Operators**, 2002 http://www4.trb.org/trb/crp.nsf/All+Projects/TCRP+B-17
- TCRP Web Document 20: **Advanced Public Transportation Systems for Rural Areas: Where Do We Start? How Far Should We Go?** 2001 http://www4.trb.org/trb/crp.nsf/All+Projects/TCRP+B-17



SUCCESSFUL APPLICATIONS

Oregon Department of Transportation

Technologies Deployed:
Cost Allocation Billing Software,
Modern Coordinated Call Centers

In Oregon, the State DOT has been working hand in hand with various state agencies including the Department of Health and the Department of Elderly Services to help reduce transportation costs and increase the quality of service for the transportation disadvantaged throughout the state. Specifically, state agencies have co-invested in modern call centers that help coordinate travel assistance for clients throughout the various programs. Clients use the 1-800 number to book rides across agencies so that they have better access to transportation while also allowing the various agencies to maximize the efficiency of their vehicles and staff. Call center employees also work across departments increasing staff efficiency and knowledge of client services. The primary target client for these call centers is Medicaid brokerages. They are also working with various rural agencies to help with their paratransit services.

The primary savings benefit is derived from the call centers' use of the **cost allocation software**.

The state has experienced a significant cost reduction per client trip and has seen a dramatic increase in the ridership volume across the board. The primary savings benefit is derived from the call centers' use of the cost allocation software. The administrative time and effort tied to billing is now much more cost-efficient than prior to the introduction of the software. The billing software has performed above their expectations.

CONTACT: Oregon DOT, 503-986-3472

Washington DOT and Oregon DOT

Technologies Deployed: Cost Allocation Billing Software, Traveler Information Website/Software

In the Pacific Northwest, another example of cross jurisdictional cooperation is taking shape that will have a dramatic impact on transportation disadvantaged people living in the two states. The DOTs of Washington and Oregon are working together to help their clients with their travel schedules while at the same time helping to increase the efficiency of the providers. The program is in the pilot stages.

The program concept is to allow riders a broad range of transportation options previously unavailable to them. The system currently consists of an online website that allows clients to use traveler information software to help plan needed trips. The system uses schedules and routes from public transit agencies, paratransit service providers, Medicaid providers, elderly service providers, and even incorporate local taxi and private shuttles.

Although the system is still working on its requirements, the eventual plan will allow for a fully integrated traveler information system so that riders will not only see what options they have available but also make actual appointments across the various participating agencies and service providers. The system will eventually help providers reduce costs as a result of more efficient use of vehicle trips and staff time as well as cost recovery using cost allocation software to determine trip-billing information.

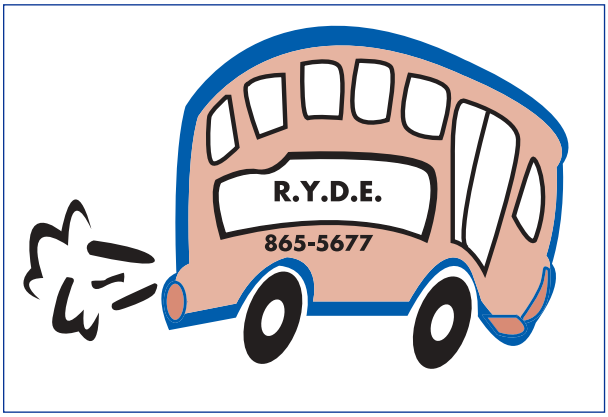
For more program information: http://www.odot.state.or.us/its/transit.htm or CONTACT: Oregon DOT, 503-986-4296

The second stage of the project used **computer-aided dispatch, scheduling and billing software** to increase the efficiency of vehicle usage and **cost allocation administration.**

Reach Your Destination Easily (RYDE), Nebraska

Technologies Deployed: Cost Allocation Billing Software, Computer-Aided Dispatch (and scheduling) System, In-Vehicle Technologies: Automatic Vehicle Location, Global Positioning System, Radio Communication

In South Central Nebraska, the local transit agency has teamed up with the state, various counties, and numerous local and regional organizations to help provide joint transit services to assist individuals needing specialized transportation throughout the region. The overall mission of the program, called RYDE, is to ensure coordination with service providers so that transit vehicles and staff are used as efficiently as possible while providing the best possible services to their clients.



The program was implemented over three stages. In the first stage, radio communications equipment was upgraded to improve communications between vehicle operators and dispatch. The second stage of the project consisted of using computer-aided dispatch (CAD), scheduling and billing software to increase the efficiency of vehicle usage and cost allocation administration. During the third stage mobile global positioning satellite units were installed in vehicles so that the automatic vehicle location system could provide dispatch with real-time vehicle location to assist in routing.

After each stage the program noticed a significant increase in ridership, an increase of over 1000 riders per month without needing to add new vehicles to provide service. While adding significant ridership, the RYDE program also increased the geographical service area and reduced the trip denial rate from an average 30 trips a day down to 2. The transit providers have been able to use their limited resources more efficiently so that vehicles and staff are able to increase their own performance using the software and in-vehicle technologies.

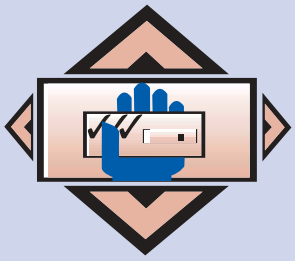
CONTACT: Community Action Partnership of Mid Nebraska, 308-865-5675 x107

Northern Nevada Transit Coalition (NNTC), Nevada

Technologies Deployed: Electronic Fare Payment System - Magnetic Swipe Card, CAD-Schedule Trip Analysis Software, Client Trip Database

In Nevada, the Division of Aging Services (DAS) has been working with the Northern Nevada Transit Coalition (NNTC) to implement a magnetic swipe card program to serve their clients in northern Nevada. The program will help reduce the administrative costs associated with validating and verifying trips to determine cost allocation.

A state grant has provided funding for installation of magnetic readers on approximately 50 buses. The goal is to allow riders to board the buses without signing a record to determine cost allocation for the trip. A rider simply swipes their issued card, which records when they boarded and ended their trip. The cards allow the transit authority to assign the costs of the trips to the appropriate agency or organization for cost recovery. The cards are also encoded with client



The electronic fare payment cards allow the transit authority to **assign the costs of the trips to the appropriate agency or organization for cost recovery.**

information that quickly verifies and matches the trip taken with that booked. The vehicle reader is downloaded into a main database and software automatically assigns each trip a cost code.

This program also has other positive impacts on both riders and the transit agency. Riders no longer need to carry cash for fares and they receive better validation of their rides. The transit agency has less chance of missing cash as well as having much better information to help overall program planning.

CONTACT: Nevada Division of Aging Services, 775-688-2964

Northern Shenandoah Valley, Virginia

Technologies Deployed: Electronic Fare Payment System – Smart Card, Networked CAD System Using Cost Allocation Billing Software, Coordinated Client Database, MDTs

In western Virginia, all three levels of government are getting together to introduce new technologies that allow cost-effective and reliable transportation services to their clients. The US DOT and US Department of Health and Human Services are partnering with the Virginia DOT, numerous service providers and non-profits, and James Madison University to develop and deploy a smart card program that help maximize the potential of the transportation technologies already in place in the region.

The project implements a smart card used for client identification, trip payment allocation and data analysis and is integrated into the current networked computer-aided dispatching system. In Phase 2, James Madison University will use the mobile data terminal software to verify and track client usage and determine appropriate electronic billing.

After the program is implemented the region is expected to see significant gains in vehicle performance, billing and administration efficiency, and rider satisfaction. Although this is only a pilot project, it is clear that by maximizing their resources the three levels of government and the various stakeholders will be able to provide state-of-the-art technologies, that aid in cooperative, reliable, and cost-efficient specialized transportation services.

CONTACT: Virginia DOT, 804-225-3678

The examples presented demonstrate the varied technologies, especially **cost allocation billing software,** which can be used in tandem to offer efficient and effective ways to overcome financial concerns that arise when multiple human services agencies provide coordinated transportation.

UNITED WE RIDE
COORDINATING HUMAN SERVICE TRANSPORTATION

PLEASE PLACE POSTAGE HERE

United We Ride Program Office
United States Department of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

FTA
Federal Transit Administration

FOR MORE INFORMATION ON TRANSPORTATION COST ALLOCATION TECHNOLOGIES

Federal Interagency Coordinating Council on Access and Mobility and the **United We Ride Program**: http://www.unitedweride.gov/

- United We Ride Program Office, US Department of Transportation, 400 7th Street, S.W., Washington, DC 20590

Technology Information:

- Intelligent Transportation Peer-to-Peer Program (an FHWA & FTA Technical Assistance Program); Program information: http://www.its.dot.gov/peer/peer.htm; Direct assistance: 1-888-700-PEER (7337), p2p@fhwa.dot.gov
- FTA Regional Administrators and other regional contacts: http://www.unitedweride.gov/1_387_ENG_HTML.htm

This brochure has been produced by the USDOT Volpe Center with support from the Federal Transit Administration for the **Coordinating Council on Access and Mobility.**
The Council is comprised of 11 Federal departments, including the Departments of Transportation, Health and Human Services, Labor, Education, Housing and Urban Affairs, Agriculture, Justice, Interior, the Veterans Administration, the Social Security Administration and the National Council on Disabilities. (March, 2005)

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